

PRELIMINARY REMARKS

Claims 1, 3 to 6, 8 to 11 and 13 as set forth in Appendix II of this paper are now pending in this case. Claims 2 and 12 have been canceled, and Claims 1 and 11 have been amended, as indicated in the Listing of Claims set forth in Appendix I of this paper.

Accordingly, applicants have introduced the limitations of Claim 2 into Claim 1. Claim 1 as herewith submitted, therefore, relates to the subject matter of Claim 2 in independent form. Claim 11 has been amended to recite the particular process parameters which characterize the composite in accordance with the provisions set forth in Claim 1. No new matter has been added.

The Examiner has objected to Claim 2. Withdrawal of the objection is respectfully solicited since Claim 2 has been canceled and the error which gave rise to the objection has not been incorporated into Claim 1.

The Examiner has rejected Claims 1, 3, 4 and 8 to 10 under 35 U.S.C. §102(b) as being anticipated by the teaching of *Johnson* (US 5,139,854). Withdrawal of the rejection is respectfully solicited since Claim 1, as herewith presented, relates to the subject matter of Claim 2 which claim was not included in the Examiner's respective rejection. Claims 3, 4 and 8 to 10 incorporate the limitations previously defined in Claim 2 by reference to (amended) Claim 1, so that the rationale underlying the Examiner's rejection is no longer applicable to those claims. Favorable action is solicited.

The Examiner has rejected Claims 1, 3 to 5 and 13 under 35 U.S.C. §103(a) as being unpatentable in light of the teaching of *Ellison et al.* (US 5,342,666) when taken in view of the disclosure of *Johnson* (US 5,139,854). Withdrawal of the rejection is respectfully solicited since Claim 1, as herewith presented, relates to the subject matter of Claim 2 which claim was not included in the Examiner's respective rejection. Claims 3 to 5 and 13 incorporate the limitations previously defined in Claim 2 by reference to (amended) Claim 1, so that the rationale underlying the Examiner's rejection is no longer applicable to those claims. Favorable action is solicited.

The Examiner has rejected Claim 2 under 35 U.S.C. §103(a) as being unpatentable in light of the teaching of *Johnson* (US 5,139,854). More particularly, the Examiner points to the Court's holding in *In*

re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) that the mere duplication of parts has no significance unless a new and unexpected result is achieved. Applicants herewith enclose a Declaration executed by Dev.-Eng. Müller. As explained in the Declaration, Dev.-Eng. Müller has conceived a series of investigations wherein the tensile modulus, in [MPa], of a variety of test-specimen was determined. The resultant data, which are compiled in the table on pages 3 and 4 of the Declaration, indicate:

in col. 2: the tensile modulus of the backing layer¹⁾ without any decorative layer and/or heat cured layer being applied;

in col. 3: the tensile modulus of a composite of the backing layer, a decorative layer of 0.2 mm thickness, and a heat cured layer applied to one face of the backing layer;

in col. 4: the tensile modulus of a composite of the backing layer, a decorative injection aluminum layer of 0.2 mm thickness, and a heat cured layer applied to one face of the backing layer;

in col. 5: the tensile modulus of a composite of the backing layer, a decorative steel layer of 0.2 mm thickness, and a heat cured layer applied to one face of the backing layer;

in col. 6: the tensile modulus of a composite according to the limitations set forth in Claim 1 wherein a decorative layer of 0.2 mm thickness, and a heat cured layer are applied to each side of the backing layer;

in col. 7: the tensile modulus of a composite according to the limitations set forth in Claim 1 wherein a decorative injection aluminum layer of 0.2 mm thickness, and a heat cured layer applied to each side of the backing layer; and

in col. 8: the tensile modulus of a composite according to the limitations set forth in Claim 1 wherein a decorative steel layer of 0.2 mm thickness, and a heat cured layer applied to each side of the backing layer.

The data set forth in cols. 6 to 8 of the table are representative of a composite according to applicants' invention whereas the data provided in cols. 2 to 5 of the table serve for comparison. It is immediately apparent that the application of the decorative layer and the heat cured layer to each side of the backing layer provides for a significant improvement in the tensile modulus of the specimen. The

1) The nature of the backing layer material is indicated in col. 1 of the table.

significant increase in the tensile modulus which is achieved in accordance with applicants' invention is neither suggested nor implied by the teaching of *Johns n*. It is well established that the inventive subject matter as a whole, which is referred to in the statute, embraces not only the subject matter particularly recited in the claims, but also the properties which are inherent in the particular combination of features defined in the claims²). As evidenced by the results reported in the Declaration, applicants' specific requirement that the decorative layer and the heat cured layer are present on each side of the backing layer results in a distinctly improved tensile modulus of the composite. Since the teaching of *Johnson* fails to suggest or imply the application of the decorative layer and the heat cured layer to each side of the backing layer and the resulting specific improvement, the disclosure of *Johnson* fails to render applicants' invention as a whole obvious within the meaning of 35 U.S.C. §103(a). Favorable reconsideration of the Examiner's position and withdrawal of the respective rejection is therefore respectfully solicited.

For the reasons above, the disclosure of *Johnson* also fails to render the subject matter defined in Claims 3 to 6, 8 to 11, and 13 obvious within the meaning of 35 U.S.C. §103(a) since those claims incorporate the limitations of Claim 1 by reference³).

The Examiner has rejected Claim 5 under 35 U.S.C. §103(a) as being unpatentable in light of the teaching of *Johnson* (US 5,139,854) when considered in view of the disclosure of *Miyakoshi* (US 5,827,788), and has rejected Claim 6 under 35 U.S.C. §103(a) as being unpatentable in light of the teaching of *Johnson* (US 5,139,854) when considered in view of the disclosure of *Pelzer* (US 6,019,923). Essentially, the rationale underlying the Examiner's rejections are no longer applicable since the claims, when considered by the Examiner, did not incorporate by reference the requirement that the decorative layer and the heat cured layer are applied to each side of the backing layer. The Examiner will note that neither *Miyakoshi's* disclosure nor *Pelzer's* teaching suggest or imply that the tensile modulus of a composite is

2) ie. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); *In re Wright*, 848 F.2d 1216, 6 USPQ2d 1959 (Fed. Cir. 1988), overruled on other grounds in *In re Dillon*, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1990) (*en banc*), cert. denied 500 U.S. 904 (1991)

3) If an independent claim is non-obvious under 35 U.S.C. §103, then any claim depending therefrom is non-obvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (CAFC 1988).

distinctly improved when, as required by applicants, the decorative layer and the heat cured layer are applied to each side of the backing layer. Accordingly, the disclosure of *Miyak shi* and/or *P lz r* cannot close or even narrow the gap between the teaching of *Johnson* and applicants' invention. Withdrawal of the respective rejections is therefore solicited.

Applicants respectfully request that Claim 11 be re-joined with Claim 1 et seq. Claim 11 was initially withdrawn as relating to a distinct invention because the product as claimed can be made by a materially different process⁴). The Examiner's reasons for restricting between Claim 1 et seq. and Claim 11 are no longer applicable in light of the attached amendment. Accordingly, Claim 11 identically recites the process requirements which *inter alia* characterize the composite defined in Claim 1. Since Claim 1 and Claim 11 are identical with regard to the process measures recited in the respective claim, the product as claimed clearly cannot be made by a materially different process. Favorable reconsideration and withdrawal of the restriction requirement is therefore respectfully solicited.

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Respectfully submitted,

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Encl.: THE LISTING OF CLAIMS (Appendix I)

THE AMENDED CLAIMS (Appendix II)

Dev.-Eng. Müller's Declaration dated October 02, 2003

HBK/BAS

4) Note Paper 05, page 2, lines 11 to 13 (Office action mailed August 24, 2001).

A P P E N D I X I:

THE LISTING OF CLAIMS (version with markings):

1. (currently amended) A layered composite useful for flooring coverings and wall panels with at least one decorative surface and consisting of a backing layer of a reinforced thermoplastic polymer which is not polypropylene, a decorative layer arranged thereupon and a heat-cured layer applied to the decorative layer,
wherein a decorative layer and a heat-cured layer applied to the decorative layer are present on each side of the backing layer;
wherein the total thickness of the layered composite is from 1 to 20 mm and ~~[whose]~~ the backing layer makes up at least 80% of the thickness;
wherein said reinforced thermoplastic polymer comprises polyethylene, polyvinyl chloride, polyesters, polycarbonates, polyacrylates, polymethacrylates, polyamide, polyurethane, a polyacetal and/or polystyrenes,
and which layered composite is prepared by
heating said reinforced thermoplastic polymer to at least 180°C in an extruder; ~~[and then]~~
then, under a pressure of at least 80 N/cm², introducing said heated reinforced thermoplastic polymer into an injection molding chamber of an injection molding machine into which ~~[the]~~ films for the decorative ~~[layer]~~ layers and the heat cured ~~[layer]~~ layers and an optional intermediate layer have previously been placed,
applying to the layers in the injection-molding machine a holding pressure of at least 10 N/cm²,
while maintaining said pressure, cooling to a temperature not below 60°C for a period of not more than 4 minutes, and then
removing the layered composite from the injection-molding chamber.
2. (canceled)
3. (previously presented) A layered composite as claimed in claim 1, where an intermediate layer is also inserted as bonding material between the backing layer and the decorative layer.
4. (previously presented) A layered composite as claimed in claim 1 and comprising a polystyrene backing layer.

5. (original) A layered composite as claimed in claim 1 and comprising a polybutylene terephthalate backing layer.
6. (original) A layered composite as claimed in claim 1 and comprising a polyoxymethylene backing layer.
7. (canceled)
8. (previously presented) A layered composite as claimed in claim 1, where the decorative layer is composed of a polymeric material which has an embossment or a coloration or a combination of both, or of paper or of a fabric or of a paper-like or fabric-like or wood-like material.
9. (previously presented) A layered composite as claimed in claim 1, where the heat-cured layer arranged on the decorative layer is composed of a thermosetting polymeric material, crosslinked by exposure to pressure or heat during the production of the layered composite.
10. (previously presented) A layered composite as claimed in claim 1, whose total thickness is from 5 to 10 mm and whose backing layer makes up at least 90% of the total thickness.
11. (currently amended) A process for producing [a] the layered composite [as claimed] defined in claim 1, which comprises [using the backing layer material to in-mold coat the decorative layer and heat-cured layer materials, both of which are provided in the form of thin flexible films]

heating said reinforced thermoplastic polymer to at least 180°C in an extruder;

then, under a pressure of at least 80 N/cm², introducing said heated reinforced thermoplastic polymer into an injection molding chamber of an injection molding machine into which films for the decorative layers and the heat cured layers and an optional intermediate layer have previously been placed,

applying to the layers in the injection-molding machine a holding pressure of at least 10 N/cm²,

while maintaining said pressure, cooling to a temperature not below 60°C for a period of not more than 4 minutes, and then

removing the layered composite from the injection-molding chamber.

12. (canceled)

13. (previously presented) A layered composite as claimed in claim 1 wherein the reinforcing material of the reinforced thermoplastic polymer comprises barium sulfate, magnesium hydroxide, talc, wood, flax, glass fibers or glass beads.